

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Thomas Eckel et al.
Serial No. : 09/720,273
Filed : December 21, 2000
For : FLAMERESISTANT POLYCARBONATE ABS
PLASTIC MOLDING MATERIALS
Art Unit : 1714
Examiner : Peter Szekely

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DECLARATION

I, Thomas Eckel, residing at Pfauenstr. 51, 41540 Dormagen, Germany, declare as follows:

- 1) that I have the following technical education and experience:
 - a) I am a chemist having studied at the Phillips-Universität of Marburg, Germany, from 1978 to 1987,
 - b) I received the degree of doctor rer. nat. at the Phillips-Universität of Marburg in the year of 1987,
 - c) I am employed by Bayer AG since July 1987 in the Research Department especially handling polymer blends;
- 2) that the following tests were carried out under my immediate supervision and control:

Experimental results

Components used:

Component A

Linear bisphenol A based polycarbonate having a relative solution viscosity of 1.252, measured in CH_2Cl_2 as solvent at 25°C and a concentration of 0.5 g/100 ml.

Component Ba*

Graft polymer prepared from 55 wt. % of diene rubber B.2 as described in the specification on page 24, lines 11 – 14 but having an average particle diameter d_{50} of 0.3 μm and 45 wt. % of SAN copolymer according to the specification on page 24, line 21 to page 25, line 24.

Component D

Triphenylphosphate (Disflamol TP, Bayer AG)

Component E

Tetrafluorvethylene polymer (PTFE) as a coagulated mixture prepared from the graft polymer according to a.m. component Ba* in water and a PTFE emulsion in water (weight ratio graft polymer Ba* to PTFE is 90:10 wt. %). Further details are described in the specification on page 27 line 15 to page 28 line 4.

Production and testing of the moulding compositions according to the invention

The components are mixed in a 3 litre internal kneader. The mouldings are produced at 260°C on an Arburg model 270 E injection moulding machine.

The Vicat B softening point is determined to DIN 53 460 (ISO 306) on bars of dimensions 80 x 10 x 4 mm.

Weld line strength is determined by measuring the impact strength to DIN 53 453

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at the weld line of test specimens injection moulded from both sides (processing temperature 260°C) of dimensions 170 × 10 × 4 mm.

Stress cracking behaviour (ESC behaviour) was investigated on bars of dimensions 80 × 10 × 4 mm, processing temperature 260°C. The test medium used was a mixture of 60 vol.% toluene and 40 vol.% isopropanol. The test pieces were pre-stressed on a circular arc template (initial elongation in percent) and immersed in the test medium at room temperature. Stress cracking behaviour was evaluated on the basis of cracking or failure as a function of initial elongation in the test medium.

Composition and test results of Comparative Example 3

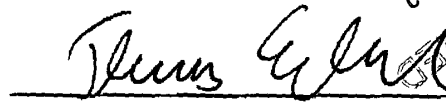
Components (parts by weight)

A	66.7
Ba*	8.0
C	9.4
D1 (Triphenylphosphate)	12.0
E **	4.2
a _k [kJ/m ²]	54
Vicat B 120 [°C]	90
UL 94 V, 1,6 mm	V-0
a _n (weld line) [kJ/m ²]	9.0
ESC-behavior	
Failure at ε _x [%]	2.4

* average particle diameter of the graft base d₅₀ = 0.3 μm

** using Ba* as graft polymer

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.



THOMAS ECKEL

Signed at Dornagen, this 30. day of April, 2003.

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